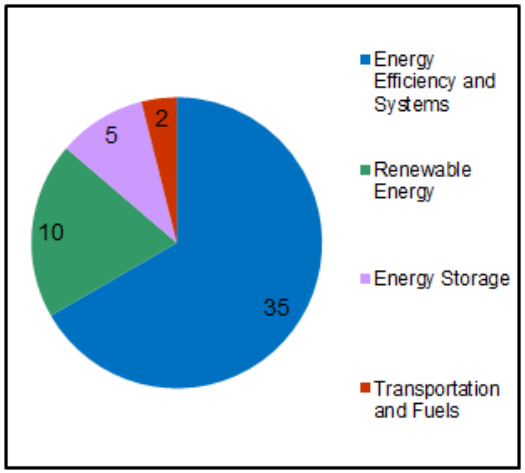
FY16 Top Navy Shore Energy Needs

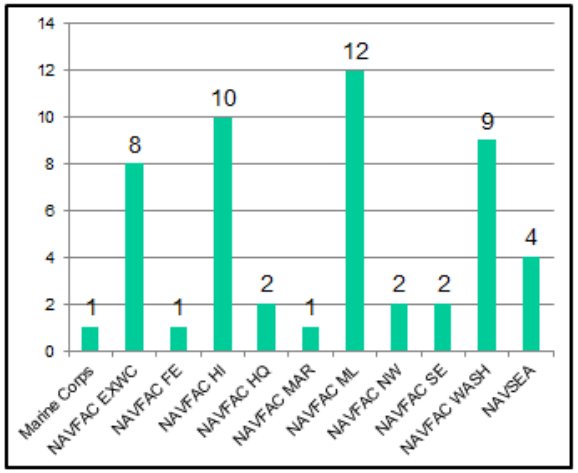
Top Navy Shore Energy Needs (for FY 16 RDT&E investment)

The NSETTI program solicits Shore Energy needs from across the Navy's Shore Energy community. These needs become an essential part of addressing shore energy technology challenges and are used to prioritize technology investments. The first formal NSETTI needs solicitation exceeded our expectations resulting in 52 needs! The needs represent requirements across all our thrust areas from a broad range of geographic regions and organizational echelons.

Needs by Thrust Area



Needs by Command



Of the 52 needs collected, the NSETTI Working Group (NWG) approved 29. The remaining 23 needs were considered not valid either because they are already being addressed or do not fall into the NSETTI's program area. The subsequent NSETTI Review Group (NRG) evaluation resulted in a down-selection of 23 approved needs (from the 29 NWG approved needs). The NSETTI Approval group resulted in a down-selection to 12 needs. Those needs were consolidated into the 5 needs listed in the table below.

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No.	Combined Title	Combined Description	Priority
1	Utilize Energy Storage to Enable Renewable Generation	There is a need for cost effective energy storage to enable renewable energy generation. Many bases have met their renewable threshold and cannot add more renewable energy without energy storage.	High
2	Energy Security through Battery Reuse	The Navy recycles batteries that no longer meet first use criteria but still have additional capacity such as “fleet return” submarine batteries. There is a need to demonstrate and evaluate the ability to reuse these batteries as energy storage for UPS, enabling islanding capability during a power outage, integrating with renewable systems, demand response or other grid stability issues. The demonstration should include a study on the applicability throughout the Navy with different types of used batteries.	High
3	Reliable and Resilient Power Enabled by a Microgrid, Renewable Energy and Energy Storage	Naval Installations need a reliable and resilient power supply with the ability to operate while the main grid is down. In addition, the Navy needs a way to integrate renewable energy resources and energy storage smoothly into the grid. There are several installations that are at the renewable threshold limit and cannot support any additional renewable power without energy storage and Microgrid controls systems. The Navy is involved in Smart Power Infrastructure Demonstration for Energy Reliability and Security (SPIDERS). Any projects proposed should build on the work that SPIDERS has already done.	High
4	More Energy Efficient HVAC systems	The Navy needs more efficient technologies to cool and heat its buildings. In addition, there is a need to provide technology transfer and publicity for energy efficient and effective HVAC technologies that have been successfully demonstrated on Naval installations.	Medium
5	Lighting	The Navy needs a way to maximize energy savings of lighting while maintaining lighting quality. Areas of interest: wireless controls, innovative lighting controls while meeting cyber security requirements.	Low

Many of our needs focused on the problems created by the high penetration of renewable energy and the need to maintain grid stability using energy storage and smart, autonomous controls. Controlling and managing these systems remotely, autonomously or both creates a cyber-security and information technology (IT) vulnerability that we plan to address in shore energy RDTE projects in the future.